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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	09/740,720	
	Filing Date	12/18/2000	
	First Named Inventor	Christopher L. Darling	
	Group Art Unit	2126	
	Examiner Name	THE T HO	
Total Number of Pages in This Submission	39	Attorney Docket Number	MS1-681US
<b>ENCLOSURES (check all that apply)</b>			
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to Group	
<input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences	
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Petition	<input checked="" type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)	
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information	
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input type="checkbox"/> Status Letter	
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<input type="checkbox"/> Response to Missing Parts/Incomplete Application	<input type="checkbox"/> CD, Number of CD(s)		
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	Remarks		
<b>SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT</b>			
Firm or Individual Name	Kasey C. Christie/Reg. No. 40559		
Signature	<i>Kasey C. Christie</i>		
Date	July 13, 2005		

<b>CERTIFICATE OF TRANSMISSION/MAILING</b>			
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Typed or printed name	Cheryl Boies		
Signature	<i>Cheryl Boies</i>	Date	July 13, 2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTO/SB/17 (12-04)

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Effective on 12/08/2004.  
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).**FEE TRANSMITTAL**  
**For FY 2005**☐ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$)**500.00****Complete if Known**

Application Number	09/740,720
Filing Date	12/18/2000
First Named Inventor	Christopher L. Darling
Examiner Name	THE T HO
Art Unit	2128
Attorney Docket No.	MS1 -681US

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**METHOD OF PAYMENT (check all that apply)**☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): \_\_\_\_\_☒ Deposit Account Deposit Account Number: 12-0769 Deposit Account Name: Lee & Hayes, PLLC

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

**2. EXCESS CLAIM FEES**

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

<b>Total Claims</b>	<b>Extra Claims</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>	<b>Multiple Dependent Claims</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>
- 20 or HP = _____	x 50 = _____					
HP = highest number of total claims paid for, if greater than 20						
<b>Indep. Claims</b>	<b>Extra Claims</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>			
- 3 or HP = _____	x 200 = _____					
HP = highest number of independent claims paid for, if greater than 3						

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

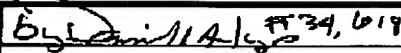
<b>Total Sheets</b>	<b>Extra Sheets</b>	<b>Number of each additional 50 or fraction thereof</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>
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**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

Other: Appeal Brief

**Fees Paid (\$)****\$500.00****SUBMITTED BY**

Signature		Registration No. (Attorney/Agent)	40559	Telephone (509) 324-9256
Name (Print/Type)	Kasey C. Christie	Date	7/13/05	

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No. ....09/740,720  
Filing Date ..... 12/18/2000  
Confirmation No.....4181  
Inventorship.....Darling et al.  
Applicant.....Microsoft Corporation  
Group Art Unit .....2126  
Examiner .....Ho, The T  
Attorney's Docket No. ....MS1-681US  
Title: *Dynamic Monitor and Controller of Availability of a Load-Balancing Cluster*

## APPEAL BRIEF

To: MS: Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

From: Kasey C. Christie (Tel. 509-324-9256; Fax 509-323-8979)  
Customer No. 22801

Pursuant to 37 C.F.R. §1.192, Applicant hereby submits an appeal brief for Application No. 09/740,720. A Notice of Appeal was filed May 13, 2005. Accordingly, Applicant appeals to the Board of Patent Appeals and Interferences seeking review of the Examiner's rejections.

07/14/2005 TLO111 00000057 120769 09740720  
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Serial No.: 09/740,720  
Atty Docket No.: MS1-681US  
APPEAL BRIEF

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1           **(1) Real Party in Interest**

2           The real party in interest is the Microsoft Corporation, the assignee of all  
3 right and title to the subject invention.  
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atty.kasey christie

1                   **(2) Related Appeals, Interferences, and Judicial Proceedings**

2                   Appellant is not aware of any other appeals, interferences, or judicial  
3 proceedings which will directly affect, be directly affected by, or otherwise have a  
4 bearing on the Board's decision to this pending appeal.  
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APPEAL BRIEF

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1                   **(3) Status of Claims**

2           Claims 1-57 are pending in this Application, and are set forth in the  
3   Appendix of Appealed Claims on page 26. All pending claims (claims 1-57) stand  
4   rejected. Claims 1-57 were originally filed in the Application. No claims have  
5   been allowed. No claims have been canceled, withdrawn, and/or non-elected.  
6   Only claim 45 has ever been amended.

7           Claims 1-57 are subject of this appeal and stand rejected as set forth in a  
8   Final Office Action dated November 16, 2004 (hereinafter, the "FINAL  
9   ACTION").

10           Specifically:

- 11           • Claims 1-13, 15, 20-32, 34, 37-43, 46-51, and 54 stand rejected under  
12           USC § 102(b) as being anticipated by Gossler (*Gossler et al.*, US Patent  
13           No. 5,799,173, which issued on 8/25/1998), as set forth in p. 2 of the  
14           FINAL ACTION.
- 15           • Claims 14, 16-19, 33, 35-36, 44-45, 52-53, and 55-57 stand rejected  
16           under 35 U.S.C. §103(a) as being unpatentable over Gossler as  
17           modified by Luzzi (*Luzzi et al.*, US Patent No. 6,321,263, which issued  
18           on 11/20/2001), as set forth on p. 6 in the FINAL ACTION.

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25           Serial No.: 09/740,720  
          Atty Docket No.: MS1-681US  
          APPEAL BRIEF

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amy.kazay@chvsllc

1                   **(4) Status of Amendments**

2           The Applicant responded to a non-final Office Action issued on April 7,  
3           2004 (hereinafter, the "NON-FINAL ACTION"). In that response, Applicant only  
4           amended one claim for merely non-substantive reasons. Applicant traversed all  
5           substantive rejections and amended no other claim.

6           After that, the FINAL ACTION issued on November 16, 2004—the action  
7           dismissing Applicant's traversal and maintaining the rejection of all pending  
8           claims. In Applicant's response to the FINAL ACTION, Applicant traversed all  
9           substantive rejections and amended no claims.

10          Subsequently, the Office issued an advisory action on March 28, 2005—the  
11          action dismissing Applicant's traversal and maintaining the rejection of all  
12          pending claims. No other amendments have been filed subsequent to the FINAL  
13          ACTION or the advisory action.

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**(5) Summary of Claimed Subject Matter**

Broadly speaking, the claimed subject matter describes a technology for remotely and dynamically monitoring the availability of the members of a load-balancing cluster. The technology provides a dynamic, exocluster application-layer monitor for dynamically monitoring and/or dynamically controlling the members of a load-balancing cluster. The application-layer availability of cluster members is viewed from a client-perspective.

Following is a concise explanation of each independent claim 1, 21, 38, 39, 46, and 54 involved in the Appeal which includes specification references and exemplary drawing reference characters. As explained, the independent claims are not limited solely to the elements identified by the reference characters.

Specifically:

Claim 1 includes a dynamic determination<sup>1</sup> of the present members of a load-balancing cluster<sup>2</sup> and a monitoring<sup>3</sup> of the application-layer availability<sup>4</sup> of one or more members of that cluster, but that application-layer availability is the one which would be observed from a client-perspective<sup>5</sup>.

<sup>1</sup> Dynamic determination: block 312 of Fig. 3; App. p. 17, line 24 through p. 18, line 2; p. 21, lines 8-13. Also, it is the opposite of static determination which is discussed on p. 7, lines 6-14.

<sup>2</sup> Load-balancing cluster: App. p. 1, line 22 through p. 3, line 2; p. 13, lines 10-25; and item 100 of Fig. 1.

<sup>3</sup> Monitoring: block 314 of Fig. 3; App. p. 18, line 3 through p. 19, line 15; item 132 of Fig.; p. 13, lines 18-25; Fig. 2, p. 14, line 1 through p. 17, line 16.

<sup>4</sup> Application-layer availability: App. p. 5, lines 6-17.

<sup>5</sup> Client-perspective: App. p. 5, line 24 through p. 6, line 16.

1        Claim 21 includes a monitoring<sup>3</sup> of the application-layer availability<sup>4</sup> of  
2 members of a load-balancing cluster<sup>2</sup> but that application-layer availability is the  
3 one which would be observed from a client-perspective<sup>5</sup>; and exoclusterly control<sup>6</sup>  
4 of the activity state of the members of that cluster.

5        Claim 38 includes a dynamic determination<sup>1</sup> of the present members of a  
6 load-balancing cluster<sup>2</sup>; a monitoring<sup>3</sup> of the application-layer availability<sup>4</sup> of the  
7 members of the cluster, but that application-layer availability is the one which  
8 would be observed from a client-perspective<sup>5</sup>; and exoclusterly control<sup>6</sup> of the  
9 activity state of the members of that cluster.

10       Claim 39 includes a dynamic cluster-membership determiner<sup>7</sup> configured to  
11 exoclusterly and dynamically determine<sup>1</sup> present members of a load-balancing  
12 cluster<sup>2</sup> and an exocluster monitor<sup>6</sup> configured to monitor application-layer  
13 availability<sup>4</sup> of the present members of the cluster.

14       Claim 46 includes an exocluster monitor<sup>6</sup> configured to monitor  
15 application-layer availability<sup>4</sup> of members of a load-balancing cluster<sup>2</sup> from a  
16 client-perspective<sup>5</sup>; and an exocluster controller<sup>8</sup> configured to control an activity  
17 state of members of the cluster.

23  
24       <sup>6</sup> Exoclusterly control: App. p. 10, line 21 through p. 11, line 3; p.20, line 22 through p. 21, line  
2; : block 314 of Fig. 3;

25       <sup>7</sup> Dynamic cluster-membership determiner: item 132 of Fig. 1 and the components of Fig. 2

<sup>8</sup> Exocluster controller: App. p. 7, line 22 through p. 8, line 2; p. 10, line 21 through p. 11, line  
7; p. 13, lines 9 through p. 17, line 16.

1 Claim 54 includes an app-monitor<sup>9</sup> configured to exocusterly monitor<sup>6</sup> the  
2 members of the cluster from a client-perspective<sup>5</sup>; a cluster-control<sup>10</sup> configured to  
3 exocusterly determine<sup>1</sup> the activity state of the members of the cluster and to  
4 exocusterly controll<sup>6</sup> the activity state of the members of the cluster; and a central  
5 controller<sup>11</sup> configured to coordinate and control the app-monitor and the cluster-  
6 control

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<sup>9</sup> App-monitor: Items 226 and 228 of Fig. 2; App. p. 16, lines 4-10.

<sup>10</sup> Cluster-control: Items 236 and 238 of Fig. 2; App. p. 16, lines 11 through p. 16, line 2.

<sup>11</sup> Central controller: Item 210 of Fig. 2; App. p. 15, lines 21-25.

**(6) Grounds of Rejection to be Reviewed on Appeal**

A. Whether Gossler anticipates claims 1-13, 15, 20-32, 34, 37-43, 46-51, and 54 under 35 U.S.C. § 102(b) and whether the Office has satisfactorily met its burden to show such anticipation?

B. Whether claims 14, 16-19, 33, 35-36, 44-45, 52-53, and 55-57 under 35 U.S.C. § 103(a) are obvious based upon the combination of **Gossler** and **Luzzi** disclosures and whether the Office has satisfactorily met its burden to show that these claims are obvious and that the combination of references is proper?

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1 (7) Argument

2  
3 Issue A – Whether Gossler anticipates claims 1-13, 15, 20-32, 34,  
4 37-43, 46-51, and 54 under 35 U.S.C. § 102(b) and whether the Office has  
5 satisfactorily met its burden to show such anticipation?  
6

7  
8 Gossler

9 Gossler is the reference for the anticipation rejections and the primary  
10 reference for the later-discussed obviousness rejection. So, Applicant will initially  
11 and briefly focus on Gossler here.

12 Gossler describes a technology for dynamically controlling the number of  
13 servers in a transaction system comprising at least one service unit for processing  
14 service requests. Each service unit comprises a queue for receiving and queuing  
15 the incoming service requests and a plurality of servers for executing the service  
16 requests.

17 Gossler describes a technology that uses the following three steps from the  
18 point of view of the queue of each service unit:

- 19
- 20 • monitoring the current number of service requests and the current  
21 number of servers allocated to a service unit of a service point,
  - 22 • determining an optimized number of servers for a service unit  
23 dependent on the current number of service requests and the current  
24 number of servers, and
  - 25 • allocating the optimized number of servers for a service unit of a  
service point.

Claim 1

This claim recites:

- **dynamically determining present members of a load-balancing cluster;**
- **monitoring application-layer availability of one or more members of the cluster as such availability is observed from a client-perspective.**

The following is the same claim, but the cited portions of Gossler and the Office's comments are provided in brackets:

- **dynamically determining present members** ["servers", line 42, col. 4] **of a load-balancing cluster;** ["dynamic workload balancing method provided by the queuing monitor 85 or any other queuing monitor order to employ an optimized number of servers for each service unit to be monitored," lines 40-43, col. 4]
- **monitoring** ["the queuing monitor 85 monitors and controls the servers for each one of the service units of the service point," lines 16-19, col. 3] **application-layer** ["the queuing monitor 85 provides a dynamic workload balancing and a defined structure for the processes of the server," lines 54-57, col. 3] **availability of one or more members** ["the minimum and the maximum number of the servers to be available to execute the processes," lines 4-16, col. 4] **of the cluster** ["a plurality of servers," line 59, col. 2] **as such availability is observed from a client-perspective.** ["the queuing monitor 85 monitors and controls the servers for each one of the service units of the service point but the queuing monitor 85 is not part of the cluster of service units and servers," lines 11-59, col. 3, Figs. 2-3]

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sby:kasey chrisle

Applicant submits that Gossler does not disclose specific aspects that are recited in this claim. Those recited aspects include:

- “Dynamically Determining”
- “Monitoring Application-Layer Availability”
- “As Such Availability Is Observed From A Client-Perspective”

**“Dynamically Determining”**

Claim 1 recites, “dynamically determining present members of a load-balancing cluster.” Gossler does not disclose this feature of claim 1.

Instead, Gossler uses the conventional approach to determining cluster membership. That approach includes using a static definition, which is typically supplied by manually maintained configuration data. Thus, Gossler’s determination of the membership consists of a receiving a static membership definition (called the “trigger message 87”) and hence Gossler is not “dynamically determining present members” as recited in the claim.

This conventional approach is precisely what Applicant’s invention sought to address. On page 7, lines 6-14, the subject Application discusses the conventional approach of static definition of cluster membership (which is what Gossler does):

Static Cluster Membership. Conventional exocluster application-layer monitors monitor a static set of hosts; there is no notion of a cluster. That is, they are not cluster-aware. They are not dynamic. In other words, they cannot dynamically monitor all of the members of the cluster as members are added and removed. They can monitor new members (or stop monitoring old members) once the

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1 membership is statically defined specifically for the monitor.  
2 However, the conventional exocluster application-layer monitors  
3 cannot dynamically begin monitoring new members as they are  
4 added to the cluster or dynamically stop monitoring old members as  
5 they are removed.

6 Col. 3, lines 14-17, Gossler describes how the queuing monitor 85  
7 “receives the trigger message 87 which contains the name of the service unit  
8 queues 57 and the name of the servers to be started.” The list of server names in  
9 the “trigger message” is a static definition of the cluster membership analogous to  
10 the conventional approach described in the background of the Application.

11 In the FINAL ACTION, the Office indicated that Gossler’s  
12 activation/deactivation of servers from its defined set of servers is equivalent to  
13 “dynamically determining present members of a load-balancing cluster,” as recited  
14 in the claim. Applicant disagrees.

15 Applicant acknowledges that Gossler discloses a dynamic workload  
16 balancing method in which configuration data may be changed while the system is  
17 running (see, col. 6, lines 51-55). As shown by cited portions of Gossler (esp.  
18 Fig. 4 and its related textual discussion), Gossler activates/deactivate servers in a  
19 given set of servers (e.g., servers 60-68 of Fig. 2). However, Applicant submits  
20 that such actions, however, are not equivalent to “dynamically determining present  
21 members of a load-balancing cluster,” as recited in the claim.

22 In particular, Gossler discloses a defined set of servers (e.g., servers 60-68  
23 of Fig. 2) for each service point (e.g., point 50). The set of servers appears to be  
24 statically defined (like is conventional). No where does Gossler disclose that its  
25



1 defined set of servers may be dynamically changed. Indeed, Applicant submits the  
 2 following sections of Gossler suggest the statically defined nature of the set of  
 3 servers available to each service point:

4 The service unit queue 57 is linked with a plurality of  
 5 servers 60-68, whereby the servers 60-68 carry out the service  
 6 requests queued in the service unit queue 57. [col. 2, lines 58-61]

7 The queuing monitor 85 receives the control information  
 8 about each service unit 55 to be monitored from the selected  
 9 setup profiles 90-94 which contain the following customer defined  
 10 service unit parameters:

11 1. ...  
 12 2. The name(s) of the associated server(s) 60-68 of the  
 13 respective service unit 55 for the processing of the incoming  
 14 service requests.

15 3. ...

16 4. ...

17 5. A threshold value which defines the number of servers  
 18 that should be linked in order to quickly process the business  
 19 requests in the respective service unit queue. The number of  
 20 servers that should be linked is determined by the number of  
 21 business requests in the queue (the queue depth) divided by the  
 22 threshold value. The number of servers that should be linked in  
 23 combination with the maximum number of servers eventually  
 24 determines the number of servers 60-68 to be linked by each  
 25 service unit 55. [col. 3, line 60 to col. 4, line 24]

26 Therefore, Applicant submits that Gossler does not disclose "dynamically  
 27 determining present members of a load-balancing cluster," as recited in the claim.

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Serial No.: 09/740,720  
 Atty Docket No.: MS1-881US  
 APPEAL BRIEF

15

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1 **"Monitoring Application-Layer Availability"**

2 As recited in this claim, the monitoring is not just of the *availability* of one  
3 or more members of the cluster, but of the "*application-layer availability*" of one  
4 or more members. Applicant submits that Gossler never discloses monitoring the  
5 "*application-layer availability*" of its servers.

6 The Office does not cite any portion of Gossler for disclosing the concept  
7 of "*application-layer availability*." Instead, the Office cites col. 3, lines 54-57, of  
8 Gossler for disclosing just the "*application-layer*" portion of "*application-layer*  
9 *availability*," but cites nothing for the full phrase: "*application-layer availability*."

10 However, the cited portion of Gossler does not even disclose "*application-*  
11 *layer*". That cited text is quoted here: "The queuing monitor 85 provides a  
12 dynamic workload balancing and a defined structure for the processes of the  
13 server." That portion of Gossler never discusses, teaches, suggestions, etc.  
14 anything related to the "*application-layer*." It does not define it or distinguish it  
15 from any other layer. Furthermore, that portion of Gossler never discusses,  
16 teaches, suggestions, etc. anything related to "*application-layer availability*"  
17 monitoring.

18 Line 6 of page 5 of the Application states, the "*application-layer* refers to  
19 the well-known OSI [communications] model." The Office submits that the  
20 "*processes [of Gossler]* are clearly *application-layer*," but the Office supplies no  
21 objective evidence from Gossler that its monitoring is focused at the "*application-*  
22 *layer*" for communications between computing systems. While the Gossler's  
23 components (e.g., "*processes*") may be literally "*applications*," that is not  
24 dispositive to determination whether Gossler discloses monitoring at the  
25 "*application-layer*."

1 More particularly, Applicant respectfully submits that even if Gossler does  
2 disclose "application-layer," it does not disclose what the claim actually recites,  
3 which is "application-layer availability" of the members of a cluster. This concept  
4 is discussed throughout the Application. For example, "application-layer  
5 availability" is discussed at:

- 6 • Page 3, line 19
- 7 • Page 5, line 5 to page 7, line 14
- 8 • Page 18, line 6 to page 19, line 6

9  
10 Applicant submits that neither this cited portion of Gossler nor any portion  
11 of Gossler discloses, teaches, or even suggests "application-layer availability"  
12 monitoring, as recited in the claim. Since "application-layer availability" is the  
13 focus of the second element ("monitoring") of the claim, Applicant submits that  
14 Gossler cannot anticipate the claim if it does not disclose the very object of the  
15 "monitoring."

16  
17 **"As Such Availability Is Observed From a Client-Perspective"**

18 This claim recites, "as such availability is observed from a client-  
19 perspective." Applicant submits that Gossler observes availability from within  
20 the collective (called a "service point" herein) of components that are being  
21 monitored and controlled.

22 The Office cites lines 11-59, col. 3, (and Figs. 2-3), of Gossler for  
23 disclosing "as such availability is observed from a client-perspective," as recited in  
24 the claim.  
25

The Office states, "the queuing monitor 85 monitors and controls the servers for each one of the service units of the service point but the queuing monitor 85 is not part of the cluster of service units and servers." However, that portion of Gossler never discusses, teaches, suggestions, etc. anything related to the "perspective" from which the availability is observed.

From this the Applicant understands that the Office is arguing that since the queuing monitor is "not part of the cluster of service units and servers" that this equates to observing availability from a client's perspective. If the premise of the argument is true, then Applicant submits that there is nothing in Gossler to conclude that the queuing monitor would be observing from a client-perspective.

Applicant submits that Gossler needs to provide something more for such a logical conclusion to be drawn simply from a premise that the queuing monitor is "not part of the cluster of service units and servers." Applicant asks the Office to show that something more.

Furthermore, Applicant submits that the premise of the argument is not valid. That premise again is that the "queuing monitor 85 is not part of the cluster of service units and servers" which the Office equates to being outside the cluster recited in the claim.

As shown in Fig. 2 (reproduced on the right) from Gossler, the queuing monitor 85 is included inside the dotted line which defines the service point 50. Fig. 3 depicts the same relationship where queuing monitor 85 is inside the dated line which defines the service point 50.

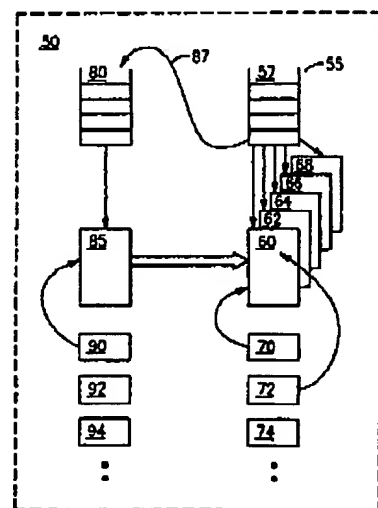


FIG.2

1 In other words, it is not outside, but, instead, inside the depicted collection  
2 being monitored and controlled. That collection is inside the dotted line and is  
3 called the service point.

4 In addition to the visual evidence of Figs. 2 and 3 that the Gossler's  
5 queuing monitor is part of an inclusive group (rather than on the outside looking  
6 in), there is textual evidence as well. Col. 3, lines 11-12, Gossler says, "the  
7 service point 50 further *contains* an initiation queue 80 *connected with* a queuing  
8 monitor 85" [emphasis added]. Col. 4, lines 37-39, Gossler says, "the queuing  
9 monitor 85 employs an optimized number of servers for each service unit 55, 104  
10 and 120 to be monitored by the queuing monitor 85 *in the service point*"  
11 [emphasis added].

12 Applicant submits that the monitoring model disclosed by Gossler is  
13 analogous to the "local" or "endocluster" monitor model, which is shown in Fig. 1  
14 and described on p. 5, lines 19-23 in the Application:

15 Local application-layer monitoring is done from within the  
16 cluster. It is performed by the node manager and/or the nodes  
17 themselves. For example, if node manager 110 monitored the availability  
18 of the nodes 112a-f, then this is local monitoring. This type of monitoring  
19 may be called "endocluster" application-layer monitoring.

20 Just like the Gossler's queuing monitor 85 monitors a collection of servers  
21 (e.g., Gossler's servers 60-68), the node manager 110 (shown in Applications Fig.  
22 1) monitors the nodes 112a-f. Both Gossler's queuing monitor 85 and the  
23 exemplary node manager 110 are not counted amongst the servers (e.g., Gossler's  
24 servers 60-68) and the exemplary nodes 112a-f. Thus, Gossler discloses a model  
25

1 that is directly analogous to that which the Applicant has described as being  
2 "endocluster" monitoring in its Application.

3 The Application then defines (at page 5, line 24 to page 6, line 10)  
4 "endocluster" monitoring to be the opposite of "exocluster" monitoring. The text  
5 from the Application re-labels "exocluster" monitoring to be "client-perspective"  
6 monitoring.

7 Thus, Applicant submits that it follows that Gossler discloses a model that  
8 is directly opposite of that which is recited in the claim. Applicant submits that  
9 Gossler discloses a monitoring model that is the opposite of "client-perspective"  
10 monitoring. Therefore, Applicant submits that Gossler does not disclose "as such  
11 availability is observed from a client-perspective," as recited in the claim.

12 As shown above, Applicant submits that Gossler does not disclose "as such  
13 availability is observed from a client-perspective," as recited in the claim.

14  
15 Claims 2-20

16 These claims ultimately depend upon independent claim 1. As discussed  
17 above, claim 1 is allowable. In addition to its own merits, each of these dependent  
18 claims is allowable for the same reasons that its base claim is allowable.  
19

20 Claim 21

21 The Office indicates that it rejects this claim for the same reasons as it  
22 rejects claims 1-2 above. Applicant requests a separate and independent  
23 examination of this independent claim. Nevertheless, if the Office's reasoning for  
24 rejecting claims 1-2 above apply to this claim, then Applicant submits that this  
25

1 claim is allowable for the same reasons that the Applicant gives above for the  
2 allowability of claims 1-2.

3  
4 Claims 22-37

5 These claims ultimately depend upon independent claim 21. As discussed  
6 above, claim 21 is allowable. In addition to its own merits, each of these  
7 dependent claims is allowable for the same reasons that its base claim is allowable.

8 Claim 38

9 The Office indicates that it rejects this claim for the same reasons as it  
10 rejects claim 21 above. Applicant requests a separate and independent  
11 examination of this independent claim. Nevertheless, if the Office's reasoning for  
12 rejecting claim 21 above apply to this claim, then Applicant submits that this claim  
13 is allowable for the same reasons that the Applicant gives above for the  
14 allowability of claim 21.

15  
16  
17 Claim 39

18 The Office indicates that it rejects this claim for the same reasons as it  
19 rejects claims 1-2, 4, 7, and 10 above. Applicant requests a separate and  
20 independent examination of this independent claim. Nevertheless, if the Office's  
21 reasoning for rejecting claims 1-2, 4, 7, and 10 above apply to this claim, then  
22 Applicant submits that this claim is allowable for the same reasons that the  
23 Applicant gives above for the allowability of claims 1-2, 4, 7, and 10.

Claims 40-45

These claims ultimately depend upon independent claim 39. As discussed above, claim 39 is allowable. In addition to its own merits, each of these dependent claims is allowable for the same reasons that its base claim is allowable.

Claim 46

The Office indicates that it rejects this claim for the same reasons as it rejects claims 1, 3-4, 6-7, and 10 above. Applicant requests a separate and independent examination of this independent claim. Nevertheless, if the Office's reasoning for rejecting claims 1, 3-4, 6-7, and 10 above apply to this claim, then Applicant submits that this claim is allowable for the same reasons that the Applicant gives above for the allowability of claims 1, 3-4, 6-7, and 10.

Claims 47-53

These claims ultimately depend upon independent claim 46. As discussed above, claim 46 is allowable. In addition to its own merits, each of these dependent claims is allowable for the same reasons that its base claim is allowable.

Claim 54

The Office indicates that it rejects this claim for the same reasons as it rejects claims 1-2 and 10 above. Applicant requests a separate and independent examination of this independent claim. Nevertheless, if the Office's reasoning for rejecting claims 1-2 and 10 above apply to this claim, then Applicant submits that



1 this claim is allowable for the same reasons that the Applicant gives above for the  
2 allowability of claims 1-2 and 10.

3  
4 Claims 55-57

5 These claims ultimately depend upon independent claim 54. As discussed  
6 above, claim 54 is allowable. In addition to its own merits, each of these  
7 dependent claims is allowable for the same reasons that its base claim is allowable.  
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23

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**Issue B – Whether claims 14, 16-19, 33, 35-36, 44-45, 52-53, and 55-57 under 35 U.S.C. § 103(a) are obvious based upon the combination of Gossler and Luzzi disclosures and whether the Office has satisfactorily met its burden to show that these claims are obvious and that the combination of references is proper?**

These claims (14, 16-19, 33, 35-36, 44-45, 52-53, and 55-57) ultimately depend upon independent claims 1, 21, 39, 46, and/or 54. As discussed above, these independent claims are allowable. In addition to its own merits, each of these dependent claims is allowable for the same reasons that its base claim is allowable.

The Office relies on Gossler as the primary reference for rejecting these claims. As discussed above, Gossler does not disclose the following recited elements/features of these rejection claims:

- “Dynamically Determining”
- “Monitoring Application-Layer Availability”
- “As Such Availability Is Observed From A Client-Perspective”

Therefore, Applicant submits that claims 14, 16-19, 33, 35-36, 44-45, 52-53, and 55-57 are allowable over the combination of Gossler and Luzzi for at least the reason that the references do not teach or suggest the combination of claimed elements and features.

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**Conclusion**

Based upon the foregoing reasons, Applicant submits that Gossler does not anticipate claims 1-13, 15, 20-32, 34, 37-43, 46-51, and 54 under 35 U.S.C. § 102(b) and, if it does, then the Office has not satisfactorily met its burden to show such anticipation. Also, based upon the foregoing reasons, Applicant submits that claims 14, 16-19, 33, 35-36, 44-45, 52-53, and 55-57 under 35 U.S.C. § 103(a) are not obvious based upon the combination of Gossler and Luzzi disclosures, but even if it is, then the Office has not satisfactorily met its burden to show that these claims are obvious and that the combination of references is proper..

Applicant respectfully requests that the 35 U.S.C. §102(b) and the 35 U.S.C. §103(a) rejections be overturned and that the pending claims 1-57 be allowed to issue.

Respectfully Submitted,

Dated: 7/13/05

By: [Signature]

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1           **(8) Appendix of Appealed Claims**

2  
3           1.     **(ORIGINAL)** A method comprising:

4                 dynamically determining present members of a load-balancing cluster;  
5                 monitoring application-layer availability of one or more members of the  
6                 cluster as such availability is observed from a client-perspective.

7  
8           2.     **(ORIGINAL)** A method as recited in claim 0 further comprising  
9                 exocusterly controlling activity state of the members of the cluster.

10  
11          3.     **(ORIGINAL)** A method as recited in claim 0 further comprising  
12                 exocusterly and selectively deactivating one or more active members of the  
13                 cluster.

14  
15          4.     **(ORIGINAL)** A method as recited in claim 0 further comprising,  
16                 based upon the monitoring, identifying one or more active members of the cluster  
17                 that are presently overwhelmed at the application-layer.

18  
19          5.     **(ORIGINAL)** A method as recited in claim 0 further comprising:  
20                 based upon the monitoring, identifying one or more active members of the  
21                 cluster that are presently overwhelmed at the application-layer;  
22                 exocusterly deactivating one or more members identified by the  
23                 identifying.

1           6.     (ORIGINAL) A method as recited in claim 0 further comprising  
2 exocusterly and selectively activating one or more inactive members of the  
3 cluster.

4  
5           7.     (ORIGINAL) A method as recited in claim 0 further comprising,  
6 based upon the monitoring, identifying one or more inactive members of the  
7 cluster that are not presently overwhelmed at the application-layer.

8  
9           8.     (ORIGINAL) A method as recited in claim 0 further comprising:  
10 based upon the monitoring, identifying one or more inactive members of  
11 the cluster that are not presently overwhelmed at the application-layer;  
12 exocusterly activating one or more members identified by the identifying.

13  
14           9.     (ORIGINAL) A method as recited in claim 0 further comprising:  
15 based upon the monitoring, identifying one or more active members of the  
16 cluster that are presently overwhelmed at the application-layer and identifying one  
17 or more inactive members of the cluster that are not presently overwhelmed at the  
18 application-layer;

19 exocusterly deactivating one or more active members identified by the  
20 identifying;

21 exocusterly activating one or more inactive members identified by the  
22 identifying.

1           **10. (ORIGINAL)** A method as recited in claim 0 further comprising  
2 determining a present activity state of members of the cluster.

3  
4           **11. (ORIGINAL)** A method as recited in claim 0 further comprising:  
5 determining a present activity state of members of the cluster;  
6 tracking and persisting the activity states of the members of the cluster.

7  
8           **12. (ORIGINAL)** A method as recited in claim 11, wherein the activity  
9 states include cluster states.

10  
11           **13. (ORIGINAL)** A method as recited in claim 11 further comprising  
12 reporting a present activity state of one or more members of the cluster.

13  
14           **14. (ORIGINAL)** A method as recited in claim 11 further comprising  
15 reporting historical record of the activity states of one or more members of the  
16 cluster.

17  
18           **15. (ORIGINAL)** A method as recited in claim 11 further comprising  
19 reporting a present application-layer state of one or more members of the cluster.

20  
21           **16. (ORIGINAL)** A method as recited in claim 11 further comprising  
22 reporting historical record of the application-layer states of one or more members  
23 of the cluster.  
24  
25

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1           17. (ORIGINAL) A method as recited in claim 0, wherein the  
2 monitoring comprises monitoring in one or more different application-layer  
3 protocols.

4  
5           18. (ORIGINAL) A method as recited in claim 0, further comprises,  
6 based upon the monitoring, determining the application-layer availability of one or  
7 more members based upon a indicator of such availability, the indicator sent from  
8 a member being monitored.

9  
10          19. (ORIGINAL) A method as recited in claim 0, further comprises:  
11 based upon the monitoring, determining the application-layer availability of  
12 one or more members based upon a indicator of such availability, the indicator  
13 sent from a member being monitored;  
14 the member being monitored determining such availability and generating  
15 such indicator.

16  
17          20. (ORIGINAL) A computer-readable medium having computer-  
18 executable instructions that, when executed by a computer, perform the method as  
19 recited in claim 0.

20  
21          21. (ORIGINAL) A method comprising:  
22 monitoring application-layer availability of members of a load-balancing  
23 cluster as such availability is observed from a client-perspective;  
24 exocusterly controlling activity state of the members of the cluster.  
25

1 22. (ORIGINAL) A method as recited in claim 21, wherein the  
2 controlling comprises selectively deactivating one or more active members of the  
3 cluster.

4  
5 23. (ORIGINAL) A method as recited in claim 21, wherein the  
6 controlling comprises, based upon the monitoring, identifying one or more active  
7 members of the cluster that are presently overwhelmed at the application-layer.

8  
9 24. (ORIGINAL) A method as recited in claim 21, wherein the  
10 controlling comprises:

11 based upon the monitoring, identifying one or more active members of the  
12 cluster that are presently overwhelmed at the application-layer;

13 exocusterly deactivating one or more members identified by the  
14 identifying.

15  
16 25. (ORIGINAL) A method as recited in claim 21, wherein the  
17 controlling comprises selectively activating one or more inactive members of the  
18 load-balancing cluster.

19  
20 26. (ORIGINAL) A method as recited in claim 21, wherein the  
21 controlling comprises, based upon the monitoring, identifying one or more  
22 inactive members of the cluster that are not presently overwhelmed at the  
23 application-layer.



1 27. (ORIGINAL) A method as recited in claim 21, wherein the  
2 controlling comprises:

3 based upon the monitoring, identifying one or more inactive members of  
4 the cluster that are not presently overwhelmed at the application-layer;  
5 exocusterly activating one or more members identified by the identifying.  
6

7 28. (ORIGINAL) A method as recited in claim 21, wherein the  
8 controlling comprises:

9 based upon the monitoring, identifying one or more active members of the  
10 cluster that are presently overwhelmed at the application-layer and identifying one  
11 or more inactive members of the cluster that are not presently overwhelmed at the  
12 application-layer;

13 exocusterly deactivating one or more active members identified by the  
14 identifying;

15 exocusterly activating one or more inactive members identified by the  
16 identifying.  
17

18 29. (ORIGINAL) A method as recited in claim 21 further comprising  
19 determining a present activity state of the members of the cluster.  
20

21 30. (ORIGINAL) A method as recited in claim 21 further comprising:  
22 determining a present activity state of the members of the cluster,  
23 tracking and persisting the activity states of the members of the cluster.  
24  
25

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1           **31. (ORIGINAL)** A method as recited in claim 30, wherein the activity  
2 state includes a cluster state.

3  
4           **32. (ORIGINAL)** A method as recited in claim 30 further comprising  
5 reporting a present activity state of one or more members of the cluster.

6  
7           **33. (ORIGINAL)** A method as recited in claim 30 further comprising  
8 reporting historical record of the activity states of one or more members of the  
9 cluster.

10  
11           **34. (ORIGINAL)** A method as recited in claim 30 further comprising  
12 reporting a present application-layer state of one or more members of the cluster.

13  
14           **35. (ORIGINAL)** A method as recited in claim 30 further comprising  
15 reporting historical record of the application-layer states of one or more members  
16 of the cluster.

17  
18           **36. (ORIGINAL)** A method as recited in claim 21, wherein the  
19 monitoring comprises monitoring in one or more different application-layer  
20 protocols.

21  
22           **37. (ORIGINAL)** A computer-readable medium having computer-  
23 executable instructions that, when executed by a computer, performs the method  
24 as recited in claim 21.  
25

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1       **38. (ORIGINAL)** A computer-readable medium having computer-  
2 executable instructions that, when executed by a computer, perform a method  
3 comprising:

4           dynamically determining present members of a load-balancing cluster and  
5 an activity state of each member;

6           monitoring application-layer availability of the one or more members of the  
7 cluster as such availability is observed from a client-perspective;

8           exocusterly controlling the activity state of the members of the cluster.

9  
10       **39. (ORIGINAL)** A system comprising:

11           a dynamic cluster-membership determiner configured to exocusterly and  
12 dynamically determine present members of a load-balancing cluster;

13           an exocuster monitor configured to monitor application-layer availability  
14 of the present members of the cluster.

15  
16       **40. (ORIGINAL)** A system as recited in claim 39 further comprising an  
17 exocuster controller configured to control an activity state of the members of the  
18 cluster.

19  
20       **41. (ORIGINAL)** A system as recited in claim 39 further comprising an  
21 overload-identifier configured to identify, based upon the monitored availability,  
22 one or more active members of the cluster that are presently overwhelmed at the  
23 application-layer.  
24  
25

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1           **42. (ORIGINAL)** A system as recited in claim 39 further comprising an  
2           overload-identifier configured to identify, based upon the monitored availability,  
3           one or more inactive members of the cluster that are not presently overwhelmed at  
4           the application-layer.

5  
6           **43. (ORIGINAL)** A system as recited in claim 39 further comprising a  
7           state-determiner configured to determine a present activity state of members of the  
8           cluster.

9  
10          **44. (ORIGINAL)** A system as recited in claim 39 further comprising:  
11          a state-determiner configured to determine a present activity state of  
12          members of the cluster;

13          a database configured to store the activity states of the members of the  
14          cluster.

15  
16          **45. (PREVIOUSLY PRESENTED)** A system as recited in claim 39,  
17          wherein the exocluster monitor is protocol agnostic.

18  
19          **46. (ORIGINAL)** A system comprising:  
20          an exocluster monitor configured to monitor application-layer availability  
21          of members of a load-balancing cluster from a client-perspective;  
22          an exocluster controller configured to control an activity state of members  
23          of the cluster.

1  
2       **47. (ORIGINAL)** A system as recited in claim 46, wherein the exocluster  
3 controller is further configured to exocusterly and selectively deactivate one or  
4 more active members of the cluster.

5  
6       **48. (ORIGINAL)** A system as recited in claim 46 further comprising an  
7 overload-identifier configured to identify, based upon the monitored availability,  
8 one or more active members of the cluster that are presently overwhelmed at the  
9 application-layer.

10  
11       **49. (ORIGINAL)** A system as recited in claim 46, wherein the exocluster  
12 controller is further configured to exocusterly and selectively activate one or more  
13 inactive members of the cluster.

14  
15       **50. (ORIGINAL)** A system as recited in claim 46 further comprising an  
16 overload-identifier configured to identify, based upon the monitored availability,  
17 one or more inactive members of the cluster that are not presently overwhelmed at  
18 the application-layer.

19  
20       **51. (ORIGINAL)** A system as recited in claim 46 further comprising a  
21 state-determiner configured to determine a present activity state of the members of  
22 the cluster.

1           **52. (ORIGINAL)** A system as recited in claim 46 further comprising:  
2           a state-determiner configured to determine a present activity state of the  
3           members of the cluster;  
4           a database configured to store the activity states of the members of the  
5           cluster.

6  
7           **53. (ORIGINAL)** A system as recited in claim 46, wherein the monitor is  
8           protocol agnostic.

9  
10          **54. (ORIGINAL)** A dynamic, active, exocluster monitoring system for  
11          monitoring application-layer availability of members of a load-balancing cluster  
12          and controlling an activity state of such members, the monitoring system  
13          comprising:

14          an app-monitor configured to exoclusterly monitor the members of the  
15          cluster from a client-perspective;

16          a cluster-control configured to exoclusterly determine the activity state of  
17          the members of the cluster and to exoclusterly control the activity state of the  
18          members of the cluster;

19          a central controller configured to coordinate and control the app-monitor  
20          and the cluster-control.

21  
22          **55. (ORIGINAL)** A system as recited in claim 54 further comprising a  
23          database configured to store state change information, including cluster state and  
24          application-layer state.  
25

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1           **56. (ORIGINAL)** A system as recited in claim 54 further comprising  
2 multiple app-monitors.

3  
4           **57. (ORIGINAL)** A system as recited in claim 54 further comprising  
5 multiple cluster-controls.  
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